Your Healthy Mouth, Your Healthy Life

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Preface
By Yvonne De Paiva Buischi

The aim of this book is to empower Kenyan children and adults to maintain a healthy mouth by teaching them how to take better care of their teeth and gums. I was inspired by the community service I did with underserved populations in Brazil, in New York City, and by the work that Dr. Peter Loomer and I do with high school girls in Kenya.

The inspiration to revise this book came from a request from the girls at Daraja Academy, who asked for educational materials they could use to share their newly-acquired knowledge and skills in preventive dentistry with those around them. They especially wanted to teach the children from the elementary school in the neighboring Masai Village how to achieve a healthy mouth and a healthy life.

Acknowledgments

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What's in Your Mouth?

The mouth is one of the most used parts of our body. We use it to talk, eat, and speak. But how well do we actually know our mouth and teeth? In the pages that follow, we will go over a few of the most frequently asked questions about our mouth and teeth.

**What is a tooth made up of?**

The tooth is made up of the crown, root and pulp. It is firmly held in the mouth by the periodontium, which is formed by the gingiva (gum), bone and periodontal ligament.

The dental pulp is a soft tissue found inside the tooth, which contains nerves and blood vessels. The crown of the tooth, the part seen in the mouth, is covered by enamel that is the hardest tissue in the body. The root is covered by cementum, and dentin forms the inner part of the tooth.

**How many teeth are there in the mouth?**

There are two sets of teeth: the first set comprises the 20 baby (primary) teeth, and the 32 adult (permanent) teeth make up the second set. While some people do not have all of these teeth, others have one or more extra (supernumerary) teeth. Before children’s baby teeth begin to get loose and fall out, it’s helpful to let them know that this is going to happen and that it’s a normal part of growing. An adult tooth will then grow into that space.
What is dental plaque?

Your teeth are covered with a soft, sticky film of germs called dental plaque, which continuously builds up on the tooth surface. Dental plaque contains millions of germs and is the main cause of most dental diseases — cavities (tooth decay) and gum (periodontal) diseases. Following a meal or snack containing sugary or sticky foods, the germs release acids that attack tooth enamel. These acid attacks cause the enamel to dissolve. Repeated acid attacks may eventually result in cavities. The germs in the dental plaque cling to the tooth near the gum line producing waste products or toxins, causing the gum tissue to become swollen and bleed. This is called gum disease.

Dental plaque, NOT food debris, is the main cause of dental diseases that, if left untreated, will lead to discomfort, pain, and ultimately tooth loss.

How do I know if I have dental plaque on my teeth?

How do you know if you’re cleaning your teeth properly? The best way is to use dental plaque-disclosing tablets or solutions, available at pharmacies and other stores that sell oral hygiene products. Dental plaque-disclosing tablets are chewed, and dental plaque disclosing solution is swished around the mouth after you clean your teeth. Red dye in the tablets or solution will stain dental plaque that has not been removed, showing you the areas that need additional cleaning.
How do I remove dental plaque?

Dental plaque can only be removed through meticulous daily oral hygiene, which consists of tooth brushing and cleaning between your teeth. If you don’t remove the dental plaque daily by brushing and cleaning between teeth, the plaque can eventually harden into hard deposits called tartar. Once formed, only a dental health professional will be able to remove tartar. We want to prevent tartar from forming as it is very rough, allowing more dental plaque to collect on top of it and increasing gum inflammation.

Does rinsing with water or eating hard and fibrous food clean teeth?

Dental plaque is not food debris, which can easily be rinsed away with water, nor can it be eliminated by chewing hard fibrous foods, such as carrots or apples. Dental plaque must be removed on a daily basis through good oral hygiene.
What are the most common diseases affecting the mouth?

The most common diseases in the mouth are tooth decay and gum disease, which are the leading causes of tooth loss. These are infections of the mouth, which, when not treated, can spread to other body parts. A diseased mouth can be both physically and psychologically painful. Both of these dental diseases are preventable, or easily treated when diagnosed early.

What is tooth decay?

Tooth decay is a disease caused by germs (dental plaque), which leads to the destruction of the hard tissues of the tooth, including the enamel. It occurs when foods containing carbohydrates (sugars and starches) such as milk or tea with sugar, soda, sugar cane, cakes or candy are eaten frequently. Germs that live in the mouth digest these foods, producing acids. The stickiness of the dental plaque keeps these acids in contact with your teeth. These acids attack the tooth surface leading to loss of minerals from the enamel, a process known as “demineralization.” Repeated acid attacks may lead to the first visible sign of cavities — the “pre-cavity.”
Dental Plaque + sugar → Acids → Pre-cavity

Not cleaning + still sugar → Cavity Forms

Cleaning + less sugar → Cavity does not develop

Dental Filling

Tooth looks normal
What is gum disease?

Gum diseases, including gingivitis and periodontitis, are serious infections that, if left untreated, can lead to tooth loss. The word periodontal literally means “around the tooth.” Gum disease is a chronic germ infection that affects the gums and bone surrounding the teeth. Gum disease can affect one tooth or many teeth. Unlike cavities, gum disease usually causes little or no discomfort, so you may not be aware you have it.

Gum disease starts when the germs in dental plaque cause the gums to become inflamed. In the mildest form of the disease — gingivitis — the gums redden, swell, and bleed easily. Gingivitis is caused by inadequate oral hygiene. Gingivitis is usually reversible with good oral hygiene. Untreated gingivitis can progress to periodontitis, which results in the loss of bone. With time, dental plaque can grow and spread below the gum line. Gums then separate from the teeth, forming pockets (spaces between the teeth and gums). As the disease progresses, the pockets deepen and gum tissue and bone are destroyed. Eventually, teeth can become loose and may have to be removed.
What are canker (mouth) sores?

Canker sores, also known as apthous ulcers, are small, painful blisters that develop in your mouth or around your gums. People with a family history of mouth ulcers are at higher risk for developing them. Canker sores aren’t contagious and usually go away within one to two weeks. However, if you get a canker sore that is large or extremely painful, or if it lasts for a long time (6 weeks or more) without healing, you should seek the advice of a dentist, who can identify an infection from a virus, such as herpes simplex, or, rarely, mouth cancer.

How do I know if I have a mouth sore?

In most cases, mouth sores cause some redness and pain, especially when eating and drinking. They can also cause a burning or tingling sensation around the sore. Depending on the size, severity, and location of the sores in your mouth, they can make it difficult to eat, drink, swallow, talk, or breathe. The sores may also develop blisters. Contact your dentist if you experience any of the following symptoms: sores that are larger than 2.5 cm; frequent outbreaks of mouth sores; rash; joint pain; fever, diarrhea, or sores that do not heal.
What causes mouth sores?

Several things can lead to mouth sores, ranging from minor everyday causes to serious illnesses. For example, a mouth sore might develop if you traumatize the tissues in the mouth such as from biting your tongue, cheek, or lip; burning your mouth; irritation from a sharp object, such as braces, retainer, or dentures; brushing your teeth too hard, or using a very firm toothbrush. Mouth sores can also be caused by infections, such as herpes simplex virus and HIV, and rarely by mouth cancer.

How are mouth sores treated?

Minor mouth sores often go away by themselves within 10 to 14 days, but they can last up to six weeks. Some simple home remedies might help reduce the pain and possibly speed up the healing process. You may want to avoid hot, spicy, salty, citrus-based, and high-sugar foods, as well as tobacco and alcohol. Avoid squeezing or picking at the sores or blisters.
Is removal of food debris the main reason for tooth cleaning?

No, although the use of a toothbrush, toothpick, and/or dental floss does remove food debris, the main goal of tooth cleaning is to remove dental plaque. The germs in dental plaque feed on the sugars you eat to create acids that destroy the tooth enamel, which initiates the cavity process. Dental plaque is also the main cause of gum disease.

Is a toothbrush alone enough to clean my teeth?

Toothbrushing alone is not adequate to properly clean your teeth. A toothbrush is only capable of removing dental plaque from the inner and outer surfaces of the tooth. Cleaning between your teeth helps remove dental plaque that collects in these areas.

Dental plaque that is not removed by brushing and cleaning between your teeth can eventually harden into a rough substance called tartar (or calculus). Tartar collects along your gum line and can lead to gum disease. Once tartar forms, only your dentist can remove it. Cleaning between the teeth daily with floss or toothpicks removes dental plaque from between the teeth, where your toothbrush cannot reach.

Should I brush or clean between my teeth first?

The sequence makes no difference as long as you do a thorough job.
How do I use dental floss?

Dental floss should be used to remove dental plaque between the teeth, where your toothbrush cannot reach. Cleaning between the teeth is very important because generally this is where cavities and gum disease are more severe.

Use a 30 cm piece of floss wound around one of your middle fingers, with the rest wound around the opposite middle finger.

Hold the floss tightly between the thumbs and forefingers and gently insert it between the teeth.

Curve the floss into a “C” shape against the side of the tooth

Rub the floss gently up and down 10 times, keeping it pressed against the tooth. Don’t jerk or snap the floss.

Floss all your teeth. Don’t forget to floss behind your back teeth.
Can I use toothpicks to clean between my teeth instead of dental floss?

Dental floss should be used to remove dental plaque between the teeth, where your toothbrush cannot reach. Cleaning between the teeth is very important because generally this is where cavities and gum disease are more severe.

What is the best way to brush my teeth?

It is important to brush in a way that thoroughly cleans your teeth but does not damage the gums or wear down your teeth. Make sure to use a small amount of toothpaste — a pea size amount of toothpaste will do it!

Place your toothbrush at a 45-degree angle to the gums.

Gently move the brush back and forth in short (tooth-wide) strokes.

Brush the outer surfaces, the inner surfaces, and the chewing surfaces of the teeth.

To clean the inside surfaces of the front teeth, tilt the brush vertically and make several up-and-down strokes.

After brushing your teeth, brush your tongue several times from back to front, as the tongue harbors huge amounts of germs.
How often should I replace my toothbrush?

You should replace your toothbrush when it begins to show wear, or at least every three months, whichever comes first. It is also very important not to share your toothbrush with other people, such as relatives or friends, since germs can be passed along that way.

Reducing Consumption of Sugary Foods and Drinks Is Vital for a Beautiful Smile

Do sugary products harm my teeth?

Eating sugary foods in between meals increases the risk for cavities as dental plaque contains germs that feed on sugary foods and drinks. When that happens, acid that can eat away at the enamel of your teeth and cause cavities is released. These acids start the cavity process seconds after they are produced.
Any advice on diet to help reduce the risk of cavities?

Yes. Here are tips for your and your child’s diet and dental health:

- Shop smart! Do not routinely buy sugary or starchy snacks. Buy these “fun foods” just for special occasions.
- Limit the number of snacks eaten between meals.
- Choose nutritious snacks such as carrot sticks, fruit, popcorn, peanuts and other nuts.
- Follow a balanced diet; save foods with sugar or starch for mealtimes.
- Avoid adding sugar to tea or coffee.
- Don’t put your young child to bed with a bottle of milk, formula, juice, or sweetened tea.
- If you or your child chews gum or sips soda, choose those without sugar.
- Sugar-based medicines, such as cough relief medication, should be replaced by sugar-free medicines.
- You and your child should be aware that a proper diet is not only essential for good nutrition and weight maintenance, but also crucial for oral and general health.

Fluoride Is an Important Ally in the Fight Against Cavities

How does fluoride work?

When the element fluoride is used in small amounts on a routine basis, it helps to prevent tooth decay by encouraging “remineralization,” a strengthening of weak areas on the teeth, where cavity formation begins. Fluoride occurs naturally in water and in many different foods. It is also an ingredient in many dental products such as toothpaste, mouth rinses, gels, varnish, and supplements. Fluoride is effective when combined with a healthy diet and good oral hygiene.
What is dental fluorosis?

Fluorosis is a defect of tooth enamel caused by a higher than recommended fluoride intake during the first 8 years of life. Although fluorosis can be cosmetically treated, the damage to the enamel is permanent. In Kenya, the most common cause of fluorosis (particularly during infancy) is the extremely high level of fluoride in the drinking water. In mild cases, there may be a few white flecks or small pits on the enamel of the teeth. In more severe cases, there may be brown stains and partial or total destruction of the enamel.

How safe is fluoride?

Fluoride is documented to be safe and highly effective. Only small amounts of fluoride are necessary to achieve the maximum benefit. For children, the proper toothpaste amount for brushing must be supervised by the parent or guardian. Do not leave toothpaste tubes where young children can reach them. The flavors that may encourage them to brush may also encourage them to eat toothpaste.
Does pregnancy lead to dental problems?

No. The old myth that “You lose a tooth for every child” is not true, although many new mothers find that their own teeth and gums have deteriorated between early pregnancy and giving birth. We know pregnancy does not cause gum disease, but it contributes to its progression as a result of changes in hormone levels during pregnancy. If your gums are healthy at the time you become pregnant and you take proper care of your mouth during this period, your gums will stay healthy. Thus, it is very important to have good oral hygiene habits before, during, and after the pregnancy.

Another myth is that the expectant mother’s teeth become more susceptible to cavities because the unborn baby “steals” calcium from the mother’s teeth. This is also not true. The presence of dental plaque is what causes dental cavities. Keeping your teeth clean and avoiding sugary foods during and after pregnancy will prevent tooth decay. Following a diet with fewer sweets will not only lead to healthier teeth, but it will also keep the body weight of the mother-to-be under control.
**What must the pregnant woman do to maintain a healthy mouth?**

Attention to the following rules during pregnancy will ensure better oral health for you as well as for your baby:

- It is of utmost importance to learn about oral health so that you are able to pass the knowledge onto the baby.
- Pregnancy is a golden opportunity to quit unhealthy eating habits such as having sweet snacks, sweetened tea or soda, and fruit juices. Choose substitutes such as nuts, popcorn, cheese, vegetables, and fresh fruits. By avoiding sugary foods, you will not only prevent cavities, but also keep your weight under control. You, as a mother-to-be, must take advantage of this period in your life to develop healthier eating and living habits.
- Careful daily oral hygiene, through meticulous brushing and cleaning in between teeth, should be done at least once daily.

By following these tips, you will not only be able to maintain a healthy mouth during pregnancy, but you also will be ready to provide your baby with the necessary tools for a lifelong healthy smile.
Knowing More About Your Child’s Teeth

When do baby teeth appear?

Here are the average times each baby tooth appears in the mouth (these are only approximate ages, so don’t worry if your child’s teeth come in a bit earlier or later).

**UPPER TEETH**

- central incisor: 8–12 months
- lateral incisor: 9–13 months
- cuspid: 16–22 months
- first molar: 13–19 months
- second molar: 15–33 months

**LOWER TEETH**

- second molar: 23–31 months
- first molar: 14–18 months
- cuspid: 17–23 months
- lateral incisor: 10–16 months
- central incisor: 6–10 months

Do children feel sick when their teeth are growing?

No. Teething (growing of the teeth) does not cause any illness. Some children may be irritable while they are teething. Rubbing the gums with a small cool spoon can be soothing or let the baby chew on a clean teething ring. If your child appears to be sick while teething, see his/her doctor.
Do baby teeth have roots?

Yes. However, before the baby teeth are lost, the roots have dissolved.

When do adult teeth first appear?

The first tooth (first molar) will come in when your child is about 6 years old. The other adult teeth erupt as follows:

**UPPER TEETH**
- central incisor: 7–8 years
- lateral incisor: 8–9 years
- cuspid: 11–12 years
- first bicuspid: 10–11 years
- second bicuspid: 10–12 years
- first molar: 6–7 years
- second molar: 12–13 years
- third molar: 17–21 years

**LOWER TEETH**
- third molar: 17–21 years
- second molar: 11–13 years
- first molar: 6–7 years
- second bicuspid: 11–12 years
- first bicuspid: 10–12 years
- cuspid: 9–10 years
- lateral incisor: 7–8 years
- central incisor: 6–7 years
Caring for Your Child’s Teeth

The earlier the child has good oral hygiene habits and proper diet, the better the chance of preventing dental disease and helping your child stay cavity-free.

Is baby’s bottle at bedtime harmful to my child’s teeth?

Dental problems can begin at an early age. Your child risks severe tooth decay from using a bottle containing beverages with sugar, including milk, during naps or at night when they sleep. Nursing the baby continuously from the breast will also increase the risk of cavities.

How can I prevent tooth decay from a bottle or when nursing?

Encourage your children to drink from a cup as they approach their first birthday. Children should not fall asleep with a bottle containing a sugary beverage; use water only. At-will nighttime breast-feeding should be avoided after the first primary (baby) teeth begin to erupt. Drinking juice from a bottle should be avoided. When juice is offered, it should be in a cup.
**When should bottle feeding be stopped?**

Babies who are not being breastfed should be weaned from the bottle around 12-14 months of age. Weaning from the bottle seems to follow two paths. The first is stopping the bottle suddenly. The second method is a gradual reduction in the use of the bottle. Reduction usually begins during the day when baby is able to drink from a cup. The last and most difficult bottle to be discontinued is the bottle before bedtime. If you must put your baby to sleep with a bottle, use nothing but water.

**When should I start cleaning my child’s teeth?**

The sooner the better, as dental plaque removal is a major weapon for control and prevention of both tooth decay and gum disease — the most common oral diseases and the leading causes of pain and tooth loss. As soon as the first tooth appears in the mouth, start cleaning it with a soft infant toothbrush and water. Remember that most small children do not have the ability to brush their teeth effectively.
Which is the best type of toothbrush for children?

Choose a soft or extra-soft toothbrush as it cleans while being gentle on the gums. Choose one specifically designed for children’s mouths. Toddlers should be encouraged to let parents help brush their teeth. Parents must be responsible for their child’s oral hygiene until the child is able to do it alone, by the age of 8–9 years. Continue to supervise the brushing and flossing even after they able to do it themselves.

If a child’s baby teeth are decayed, irregular, or poorly formed, will their adult teeth also be bad?

Having tooth decay at an early age increases the risk of further caries development, not only in the baby teeth but also in the permanent dentition. Therefore, the first three years of life are the most important for your child’s future dental health. This is the time when baby teeth come in, and it is also when germs begin to grow around the tooth.

What if my child has a toothache?

See a dentist for treatment. To comfort your child, rinse the child’s mouth with water or apply a cold compress or ice wrapped in a cloth. Do not put heat or aspirin on the sore area.
Can accidents/injuries involving baby teeth harm adult teeth?

Yes. If the baby tooth is pushed into the jawbone the adult tooth can be damaged. Injuries to the face and jaws should be checked by your dentist. If untreated, hidden damage due to facial injuries may harm the developing adult teeth.

What if a tooth is chipped or fractured?

Contact your dentist immediately. Quick action can save the tooth, prevent infection and reduce the need for extensive dental treatment. Rinse the mouth with water and apply cold compresses to reduce swelling. If you can find the broken tooth fragment, bring it with you to the dentist.

What should I do if my child’s adult tooth is knocked out?

Keep the tooth and rinse it gently in cool water — do not scrub it or clean it with soap — use just water! If possible, put the tooth back in the socket and hold it there with clean gauze or a washcloth. If you can’t put the tooth back in the socket, place the tooth in a clean container with milk, saliva, or water. Get to the dental office immediately, if at all possible.
Should I worry about thumb and finger sucking?

Sucking on a thumb, finger, or pacifier is normal for infants; most children stop by age 2. If a child does not stop on his or her own, the habit should be discouraged by age 4 as it can cause tooth crowding or bite problems.

Is it okay to use a pacifier?

Yes, but it should be discouraged by age 4. A pacifier habit is easier to break at an earlier age. The earlier a sucking habit is stopped, the less chance the habit will lead to bite problems. If it helps to comfort your baby, then use the pacifier. Be certain to use pacifiers with a large flange that sits on the outside of the mouth and an oval shaped teat. This type of pacifier is recommended for safety and better dental development.
What can I do to stop my child’s finger sucking habit?

Most children stop finger sucking habits on their own, but some children need the help of their parents. When your child is old enough to understand the possible results of a sucking habit, you should encourage your child to stop, as well as talk about what happens to the teeth if he/she doesn’t stop.

What kind of problems can sucking habits provoke?

Thumb, finger, and pacifier sucking all can affect the teeth the same way. If a child repeatedly sucks on a finger, pacifier, or other object over long periods of time, the upper front teeth may tip outward (open bite) or not come in properly.

What can be done about my child’s grinding his/her teeth at night?

Some children grind their teeth at night. It is not unusual in the early years. We know that this really worries parents but in our experience it rarely requires treatment. The grinding habit can be minor or a child can wear their teeth severely. If the habit persists in later years and there is damage to the adult teeth, some form of treatment by the dentist may be needed.
Conclusion

The consequences of poor oral health have a negative impact on children’s speech, growth, function, and social development. Missing teeth, pain, and infection from oral diseases can limit food choices and worsen nutrition. Pain caused by tooth decay also can result in missed days at school and work and diminished performance. Furthermore, poor oral health can lead to adverse general health outcomes.

In this brief book, it has been our objective to provide the knowledge required to understand the fundamental causes of the most common oral diseases; namely, tooth decay and periodontal (gum) disease and to provide tips to help both mothers and their children make the kinds of choices that will ensure optimal oral health across the lifespan.

By incorporating these tips into daily living, you will put yourself and your children on the path to a healthy mouth and a healthy life — and your children will have the skills needed to share their new knowledge with others.